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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,406	07/18/2003	HanCheng Hsiung	5760-12400	5015
35690	7590	06/13/2006		
MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C. 700 LAVACA, SUITE 800 AUSTIN, TX 78701			EXAMINER LU, CHARLES EDWARD	
			ART UNIT	PAPER NUMBER
			2163	

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/623,406	Applicant(s) HSIUNG ET AL.	
	Examiner Charles E. Lu	Art Unit 2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/12/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment/Response to Arguments

1. This Action is in response to the amendment dated 4/17/2006. Claims 1, 6-9, and 15-20 are amended. Claims 1-20 are pending. Claims 1-20 are rejected.

2. Remarks concerning the objection to the drawings have been fully considered. Objection to the drawings is withdrawn.

3. Amendment to the title is acknowledged. Objection to the title and specification is withdrawn.

4. Amendments and remarks for addressing the 35 U.S.C. 101 rejection have been fully considered.

The 35 U.S.C. 101 rejection for claims 1-7 is withdrawn.

The 35 U.S.C. 101 rejection for claim 8 is maintained because the various "means for" are broadly and reasonably understood as being software per se. Therefore, the claim is interpreted to be a software system per se, which is non-statutory. A piece of hardware should be added to the claim, or the software system claimed on a computer readable storage medium.

The 35 U.S.C. 101 rejection for claims 9-14 is withdrawn.

The 35 U.S.C. 101 rejection for claims 15-20 is withdrawn.

5. Amendments to the claims for addressing the 35 U.S.C. 112, second paragraph rejection are acknowledged. The 35 U.S.C. 112, second paragraph rejection for claims 1-20 is withdrawn.

6. Arguments regarding the prior art rejection have been fully considered but are not persuasive. The following is in response to Applicants' arguments regarding the 35 U.S.C. 103(a) rejection:

Applicants argue that Moore in view of Lomet do not teach or suggest "one or more host systems...entry point to the production database", which is the claimed subject matter, as stated on p. 11 of the response dated 4/17/2006. The examiner respectfully disagrees.

Moore teaches a production database as claimed. The examiner pointed out element 52, and it should be noted that the element encompasses at least a production database, as shown by its components (note that element 52 contains elements 58, 62, 66, 70, 74, and 78). In addition, Applicants point out on p. 11 of the response that the primary controller is at least a database. Furthermore, Applicants' specification does not explicitly define a "production database". Therefore, the broadest reasonable interpretation is used.

Moore further teaches the claimed "refresh mechanism". The "refresh mechanism" was, and is, interpreted as software (see previous action). It should be noted that on p. 6 of the first Office Action, that the teaching of the software components of "generating a checkpoint...switching the storage checkpoint..." etc., should be taken as the discussion of the claimed "refresh mechanism," because the claimed refresh mechanism was, and is, understood to be software that is defined by the components discussed above.

Moore further teaches, “generating a storage checkpoint of a production database.” As to the related argument regarding the “checkpoint of primary controller”, see the above discussion on the interpretation of element 52. The generation of a storage checkpoint of a production database is seen in cited paragraph 0019, which states in part, “the checkpoint service replicates the state data and stores it in replica state database 80”.

Moore further teaches, “generating a database clone from the storage checkpoint”. The replicated data as seen above is “stored in a replica state database,” as seen in the cited paragraph 0019. Therefore, a database clone is generated, specifically at (54) of fig. 2, from the storage checkpoint discussed above, at least because the data is stored in a replica state database.

Moore further teaches, “loading data to the database clone”, because, as stated in the previous Action and above, data is transferred to the secondary controller (54), and specifically, the replica state database.

It should be noted that contrary to what appears to be argued on p. 13 of the response, the claims do not require that the database clone and the storage checkpoint be two separate objects. Therefore, the interpretation above is considered to be reasonable.

Moore further teaches, “switching the storage checkpoint to be the entry point to the production database”. This is seen in paragraph 0020. The recovery from a fault or failure involves the above switching, because the storage checkpoint of the secondary is switched to become the primary, and thus a secondary storage takes control to

Art Unit: 2163

become the entry point to a production database (i.e., the secondary becomes a “new” primary database). This described switching relates to a refresh mechanism, because the control of the database is refreshed upon fault or failure. It should be noted that Applicant did not explicitly define the term “entry point” and hence the term is given its broadest reasonable interpretation.

Moore and Lomet are both in the field of endeavor of database backup (see, e.g., Moore, fig. 2, and Lomet, fig. 2). For at least this reason, Moore and Lomet are combinable. A database clone, as known to one of ordinary skill in the art, is a replica or backup of a database, which applies to both Moore and Lomet.

Furthermore, as originally cited, Lomet teaches or suggests making data available for access by users during loading to a clone (e.g., Abstract, fig. 2, col. 3, ll. 25-30) for obtaining high availability.

It would have been obvious to one of ordinary skill in the art to combine Moore with Lomet, such that the production database of Moore is available for access during loading, as taught by Lomet. The motivation would have been to achieve high availability, as taught by Lomet (col. 3, ll. 35-40).

Therefore, as discussed above, Moore and Lomet teach or suggest all of the claimed subject matter. The prior art rejection is maintained using the art of record.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claim 8 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As to claim 8, the claimed system appears to be implemented in software per se, which is functional descriptive material per se and therefore non-statutory.

Art rejection is applied in anticipation of Applicants amending the claims to overcome the rejection under 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 5-11, 13-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al (Pub. No. 2003/0092438) in view of Lomet (U.S. Patent 6,578,041).

As to claim 1, Moore teaches the following claimed subject matter:

One or more hosts (see fig. 2);

A production database (primary database, fig. 2, #52);

Generating a checkpoint of the production database (fig. 2, #82, para. 0019);

Generating a database clone from the storage checkpoint (replicating the state data, para. 0019);

Loading data to the database clone (transferring data to the secondary controller, para. 0019);

Switching the storage checkpoint to be an entry point to the production database (secondary assuming control of the database therefore being an entry point for subsequent processing of the database, para. 0020);

Note that the refresh mechanism has been shown. The refresh mechanism is interpreted to be software per se.

Moore does not expressly teach wherein the production database is available for access by users during the loading.

However, Lomet teaches wherein a database is available for access during loading to a clone. Lomet sets up the databases as a production (primary) database and a cloned database (fig. 2). Lomet states that a database available for access during backup is conventional (on-line backup, col. 3, ll. 25-30) and provides an

improved method for coping data from an active, stable database to a backup database while update activity continues (col. 6, ll. 32-42, 45-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Moore with the above teachings, such that the production database is available for access during the loading. The motivation would have been to achieve high availability, as taught by Lomet (col. 3, ll. 35-40).

As to claim 2, Moore, as modified by Lomet, teaches performing post-processing on the clone prior to the switching (e.g., copying the data to the clone after a stable state is known, para. 0019).

As to claim 3, Moore, as modified by Lomet, teaches stopping the production database prior to the switch (fig. 3, #107) and starting the production database after the switch (para. 0020, fig. 4, #124). Note that the production database after the switch is taken to be the cloned database that now operates as a primary database.

As to claim 5, Moore, as modified by Lomet, teaches wherein the generated database clone includes references to data (e.g., the replica state databases are logical pointers to a single physical database, para. 0019).

Moore and Lomet do not expressly teach references to data in the production database.

However, Moore suggests that the references could be used for data in the production database (fig. 2, #52, para. 0018-0020).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Moore and Lomet with the above teachings,

such that the clone includes references (pointers) to data in the production database.

The motivation would have been to adapt to the particular requirements of the database system, as taught by Moore (para. 0019).

As to claim 6, Moore, as modified by Lomet, teaches wherein the refresh mechanism is configured to perform the loading of data to the clone on a different host machine than the host machine hosting the production database (para. 0018-0020, fig. 2).

As to claim 7, Moore, as modified by Lomet, teaches performing the loading of data to the database clone on a host machine hosting the production database (fig. 2, para. 0018-0020).

Claims 8-11, 13-17, 19 and 20 are directed to a system, method, or computer readable medium claiming the same invention as system claims 1, 2, 3, 5, and 6. Therefore, claims 8-11, 13-17, 19 and 20 are rejected based upon the same reasoning as stated above in the rejection of claims 1, 2, 3, 5, and 6.

9. Claims 4, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al (Pub. No. 2003/0092438) in view of Lomet (U.S. Patent 6,578,041) further in view of Applicant Admitted Prior Art (AAPA).

As to claim 4, Moore and Lomet do not expressly teach wherein the production database is a data warehouse.

However, AAPA teaches that a data warehouse is a database and may be a consolidation of other databases (p. 1, ll. 13-15). Moore and Lomet both teach production databases, as discussed above.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Moore and Lomet with the above teachings, such that the production database is a data warehouse. The motivation would have been to facilitate business decisions, as taught by AAPA (p. 1, ll. 14-19).

Claims 12 and 18 are directed to a method, or computer readable medium claiming the same invention as system claim 4. Therefore, claims 12 and 18 are rejected based upon the same reasoning as stated above in the rejection of claim 4.

Conclusion

10. Applicant's arguments were fully considered but were not persuasive. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

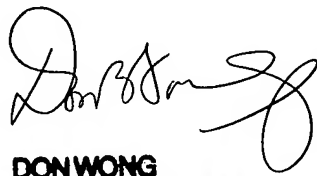
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Lu whose telephone number is (571) 272-8594. The examiner can normally be reached on 8:30 - 5:00; M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2163

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Assistant Examiner
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6/7/2006



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